

# NETWORK ANALYZERS

## Microwave Network Analyzer Accessories

HP 8510, 8720 Series



HP 85060C

### Microwave Network Analyzer Accessories

Microwave accessories for the HP 8720C and the HP 8510C series network analyzers include calibration kits, verification kits, cables, and adapters for 7 mm, 3.5 mm, Type N, 2.4 mm, and 1.85 mm coaxial; WR-90, WR-62, WR-42, and WR-28 waveguide. Millimeter-wave accessories for the HP 8510C series network analyzers include WR-22, WR-29, WR-15, and WR-10 waveguide connector interfaces. The standards used in the 3.5 mm, Type N, and 2.4 mm kits use precision slotless connectors (PSC-3.5, PSC-N, and PSC-2.4).

### Calibration Kits

Error-correction procedures require that the systematic errors in the measurement system be characterized by measuring known devices (standards) on the system over the frequency range of interest. HP offers two types of calibration kits: mechanical or electronic.

### Electronic Calibration (ECal) System

The electronic calibration system consists of a control unit and a connector specific calibration module. ECal modules are used as transfer standards. Electronic calibrations have the fewest connections and least operator interaction, while providing extremely repeatable measurements. Using the insertable ECal module with precision adapters, a non-insertable calibration can be performed with two additional connections. Or, for greater convenience, non-insertable ECal modules are available. Operation of the ECal system is through the network analyzer front panel or through HP-IB programming.

### HP 85060C Electronic Calibration Control Unit

The HP 85060C electronic calibration control unit interfaces with the HP 8510B/C, 8719C, 8720C, 8722C, and 8753C/D network analyzers via HP-IB. The control unit provides various communication lines and temperature control for the ECal module.

### Electronic Calibration Kits

The ECal kit requires an HP 85060C control unit for operation. Each standard calibration kit contains the two-port calibration module and a torque wrench for proper connection. Options are available to add a lowband module to the kit, and to change the sex of the connectors of the module.

### Mechanical Calibration Kits

All network analyzer mechanical calibration kits contain precision standard devices to characterize the systematic errors of the HP 8720 series or 8510C network analyzer system.

Each mechanical calibration kit also contains adapters to change the sex of the test port and a torque wrench for proper connection. Each kit contains standard definitions on disk for the HP 8510C. (These definitions are already included in the HP 8720 series.)

### Verification Kits

Measuring known devices, other than the calibration standards, is a straightforward way of verifying that the network analyzer system is operating properly. HP offers verification kits that include precision air-lines, mismatch air-lines, and precision fixed attenuators. Traceable measurement data is shipped with each kit on disk.

Verification kits may be recertified by Hewlett-Packard. This recertification includes a new measurement of all standards, as well as new data and uncertainties. Certification in compliance with MIL-STD 45662A is also available.

### Verification Kit Summary

Verification kit	Connector type	Frequency range (GHz)	Price
85051B	7 mm	0.045 to 18	\$6,010
85053B	3.5 mm	0.045 to 26.5	\$6,010
85055A	Type-N	0.045 to 18	\$6,010
85057B	2.4 mm	0.045 to 50	\$6,700
R11645A	WR-2B	26.5 to 40	\$5,680
Q11645A	WR-22	33 to 50	\$5,680
U11645A	WR-19	40 to 60	\$5,680
V11645A	WR-15	50 to 75	\$5,680
W11645A	WR-10	75 to 110	\$5,850

### Mechanical Calibration Kits

Calibration kit	Connector type	Frequency range (GHz)	Price
85050B	7 mm	0.045 to 18	\$7,160
85050C	7 mm	0.045 to 18	\$7,210
85050D	7 mm	0.045 to 18	\$2,625
85052B	3.5 mm	0.045 to 26.5	\$9,630
85052C	3.5 mm	0.045 to 26.5	\$10,600
85052D	3.5 mm	0.045 to 26.5	\$5,000
85054B	Type N	0.045 to 18	\$10,950
85054D	Type N	0.045 to 18	\$6,250
85056A	2.4 mm	0.045 to 50	\$10,700
85056D	2.4 mm	0.045 to 50	\$6,130
85056K	2.92 mm	0.045 to 40	\$8,100
85058D	1.85 mm	0.045 to 65	\$8,740
X11644A	WR-90	8.2 to 12.4	\$4,805
P11644A	WR-62	12.4 to 18.0	\$4,805
K11644A	WR-42	18.0 to 26.5	\$4,945
R11644A	WR-28	26.5 to 40	\$4,370
Q11644A	WR-22	33 to 50	\$4,750
U11644A	WR-19	40 to 60	\$5,170
V11644A	WR-15	50 to 75	\$5,130
W11644A	WR-10	75 to 110	\$5,250

### Electronic Calibration Modules

Calibration kit	Connector type	Frequency range (GHz)	Description/contents	Price
85080A	7 mm	1 to 18	One two-port ECal module	\$6,750
Opt 001	7 mm	0.045 to 2	and collet remover Adds lowband ECal module	+\$4,800
85080C			Control unit	\$6,100
85062A	3.5 mm (m-f)	1 to 26.5	One two-port ECal module	\$6,750
Opt 001	3.5 mm (m-f)	0.045 to 2	and m-m and f-f adapters Adds lowband ECal module	+\$4,500
Opt 00F	3.5 mm (f-f)		Changes connectors to f-f	+\$0
Opt 00M	3.5 mm (m-m)		Changes connectors to m-m	+\$0
85062A	Type-N (m-f)	1 to 18	One two-port ECal module	\$6,750
Opt 001	Type-N (m-f)	0.045 to 2	Adds lowband ECal module	+\$4,500
Opt 00F	Type-N (f-f)		Changes connectors to f-f	+\$0
Opt 00M	Type-N (m-m)		Changes connectors to m-m	+\$0